MINOLTA 110 ZOOM

Batteries: 2 ea. S76

Fig. 1 — top cover removed

Fig. 2 — bottom, winding base plate removed

Fig. 3 — shutter module, back

Fig. 5 — front of camera, lens-base plate

Fig. 6 — wiring pictorial, circuit-base plate

Fig. 7 — connections for constant-current adjustment

ADJUSTMENT LOCATIONS:

Focus, auxiliary lens	A
Finder focus	B
Trigger switch SW3	C
Parallax	D
Exposure, high light	E
Exposure, low light	F
Constant current	G
Focus, prime lens	H
Aperture size	I

Normally not necessary to disturb: C, D, G, H

ADJUSTMENT PROCEDURES:

1. Focus. Remove the front lens ring. Set f/4.5 and the 50mm zoom position. Adjust the infinity-stop ring (3 setscrews) for best infinity focus. If the lens does not stay in focus through the zoom range, you can adjust the prime lens for wide angle and the front lens for telephoto. To adjust the prime lens, loosen the locking screw, Fig. 2. Then use the keyway slot (H in Fig. 2) to shift the prime lens to the front or back of the camera.

2. Exposure. Make the low-light adjustment at EV9, f/4.5, for a shutter speed of 60 - 66ms. Make the high-light adjustment at EV15, f/4.5, for a shutter speed of 0.9 - 1.1ms. If adjustment E, Fig. 1, does not bring in the fast speeds, you can use the trigger-switch adjustment. The camera programs ASA 40 with the back open.

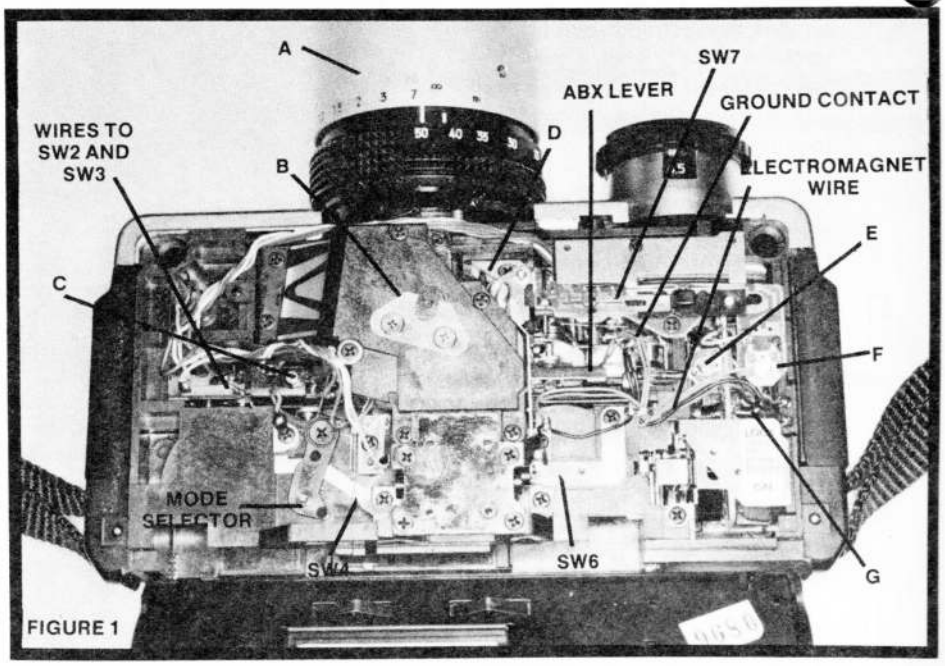

FIGURE 1

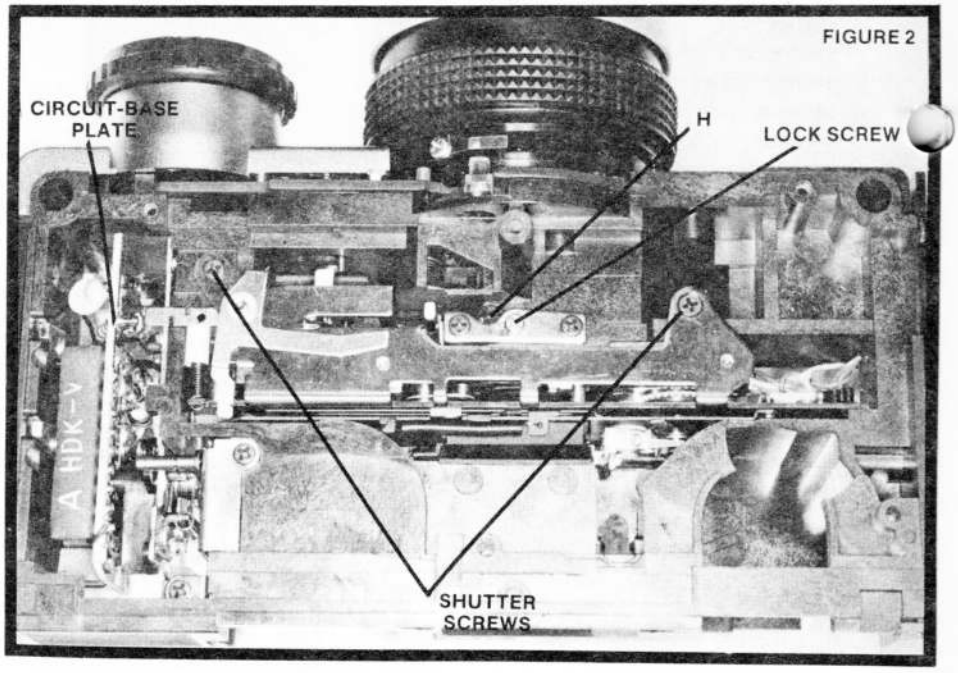

FIGURE 2

3. LEDs. The red LED should turn on to indicate that a speed faster than 1/1000 second is required. The orange LED should turn on to indicate that the camera will program a shutter speed slower than 1/50 second.

4. Battery test. The LED should turn on with 2.1V applied; it should not turn on with 1.8V applied.

5. Diaphragm size at the f/8 setting —5.5mm from corner to corner.

6. Mechanical speeds: bulb and X (1/150 second).

7. Constant current — 50u + 1ua. The adjustment is normally not necessary unless you have replaced the circuit-base plate. To check, disconnect the yellow wire from resistor F, Fig. 7. Then connect a 10K resistor as shown in Fig. 7. Apply 2.8V as shown in Fig. 7, turn on SW1, and measure the voltage across the 10K resistor. Adjust variable resistor G for a reading of 0.488 - 0.507V.

DISASSEMBLY HIGHLIGHTS:

Location of left-hand threads: screw holding film-transport gear on winding base plate

Sequence:

1. 3 screws, bottom of camera
2. 2 screws, back of camera (accessible after opening back)
3. hot shoe
4. top cover (battery-test button, lock/on button, compensation scale, and cable-release pin loose)
5. wind lever
6. bottom cover and front cover plate
7. winding base plate (4 screws — 3 in some cameras)

Sequence to remove shutter module:

1. unsolder 2 yellow wires and blue wire from shutter module (wires to SW2 and SW3, Fig. 1)
2. unsolder green wire from SW4, Fig. 1
3. unsolder 2 black wires from ground contact on shutter module, Fig. 1
4. unsolder red electromagnet wire from SW6, Fig. 1
5. unsolder red electromagnet wire from circuit-base plate, Fig. 1
6. cock shutter
7. set f/4.5

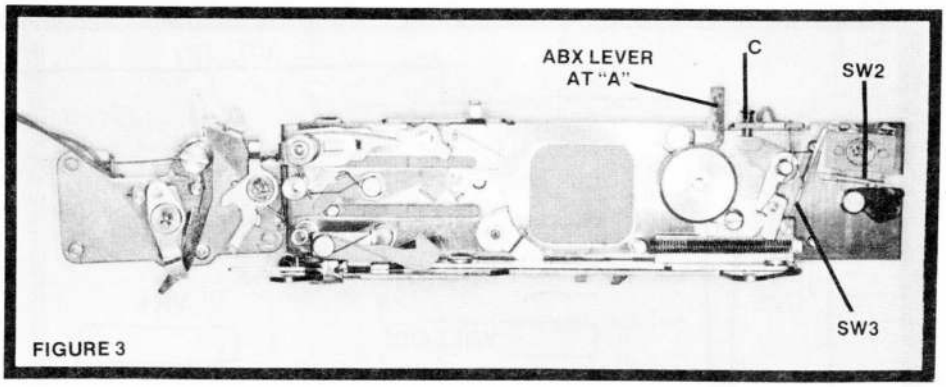

FIGURE 3

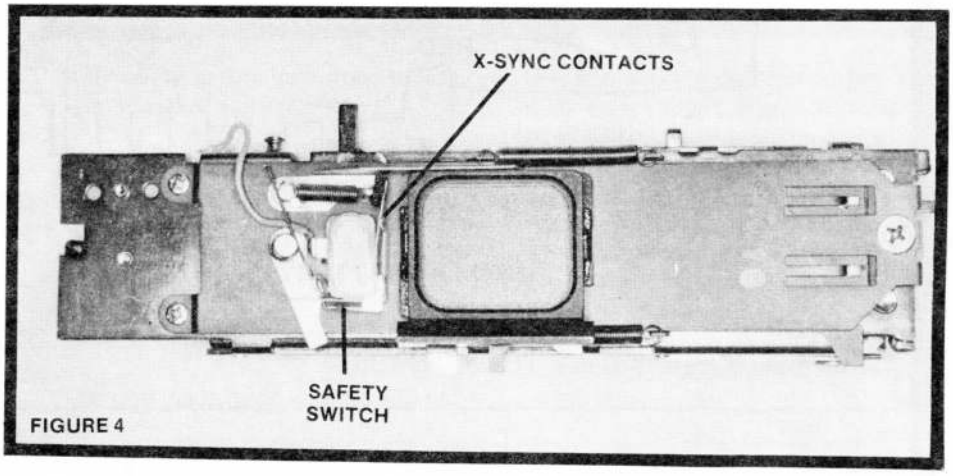

FIGURE 4

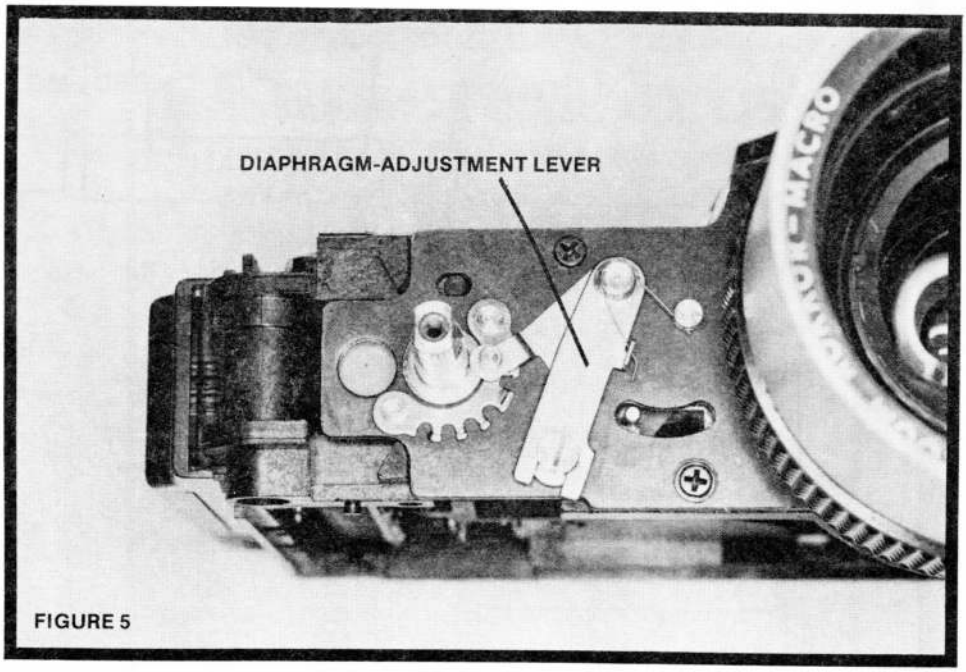

FIGURE 5

8. 2 screws, bottom, Fig. 2
9. hold ABX lever (auto-bulb-X lever) to clear body moulding and lift shutter module from bottom of camera (in early models, also remove 2 screws and end plate to take out shutter)

Sequence to remove diaphragm assembly:

1. diaphragm-setting ring
2. front decorator plate
3. lens-base plate (4 screws)
4. diaphragm assembly (3 screws)

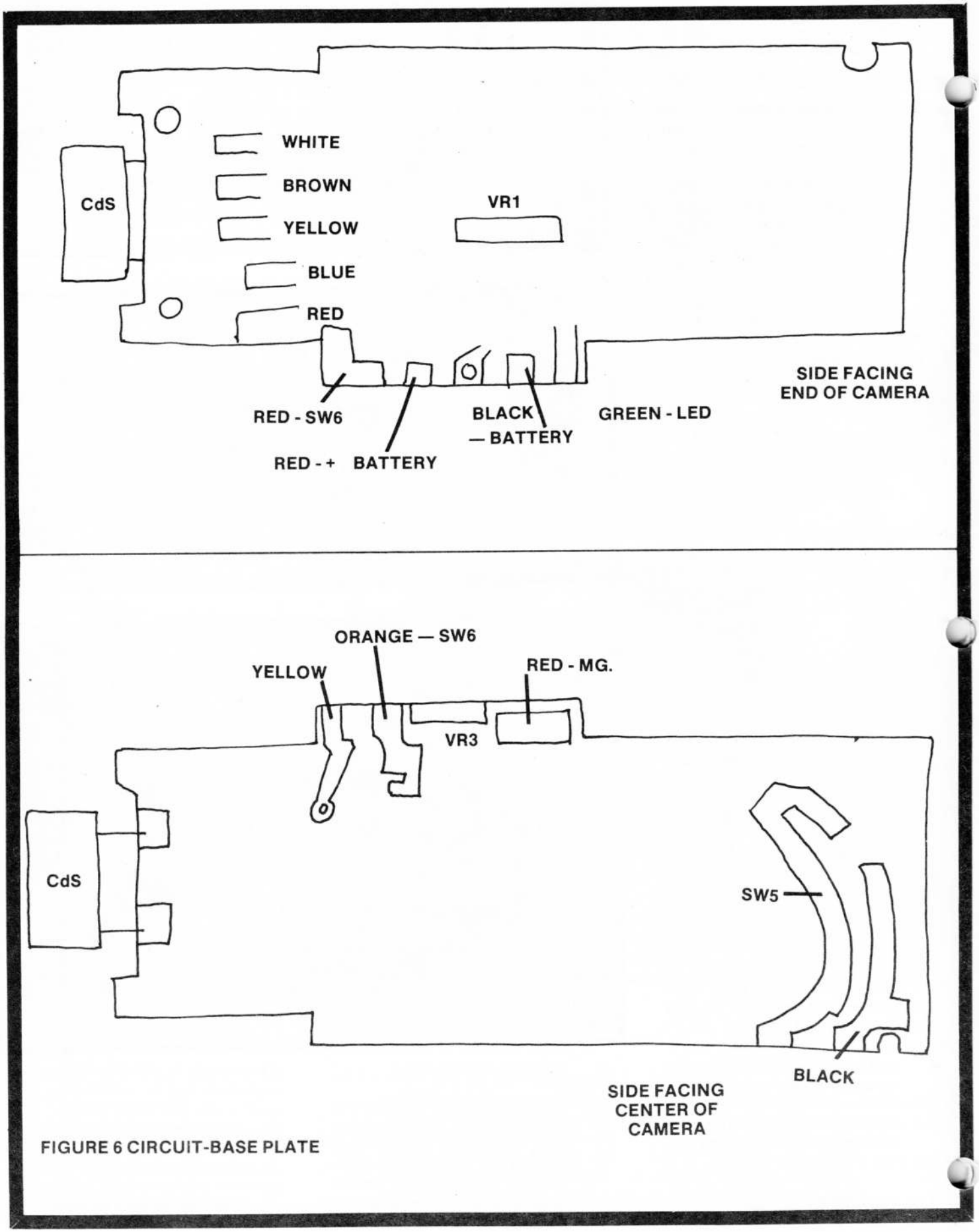

FIGURE 6 CIRCUIT-BASE PLATE

REASSEMBLY HIGHLIGHTS:

1. Cock the shutter before installing the winding base plate.

2. Hold the diaphragm lever aside to replace the diaphragm-setting ring.

3. To replace the shutter module, first cock the shutter and set f/4.5. Position the ABX lever in the "A" position, Fig. 3. Make sure the tab on the ABX lever couples to the model selector at the top of the camera, Fig. 1, as you seat the shutter module.

4. Install the mirror block with the shutter released.

5. To replace the top cover, set the speed knob and the mode selector to the X position, Fig. 1.

TROUBLESHOOTING:

Behavior without batteries: mirror locks up on auto, no LEDs

SW1 — top of camera, controlled by on/lock button, Fig. 1. Check for poor contact if shutter fails to release on auto. If the camera always draws current, check to see if SW1 remains closed.

SW2 — winding switch on shutter module, Fig. 3. SW2 should be open with the shutter charged and closed with the shutter released.

SW3 — trigger switch on shutter module, Fig. 3. SW3 should be closed with the shutter charged and open with the shutter released.

SW4 — X switch on top of camera, Fig. 1. SW4 should be open in the auto mode and closed at X or B. If the auto speeds are fast, check to see if SW4 remains on at auto. If the orange LED is always on at the X and B modes, check to see if SW4 fails to make good contact.

SW5 — film-speed selector on circuit-base plate, Fig. 6.

SW6 — battery-test switch at top of camera, Fig. 1. If both LEDs are always on with SW1 closed and the shutter set to auto, check to see if SW6 is always closed.

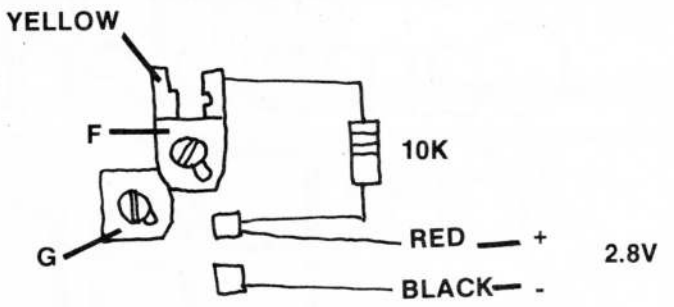

FIGURE 7

SW7 — override (compensation) switch, top of camera, Fig. 1.

Frequently repaired sections:

Corroded battery contacts, causing a failure of the shutter to release at the auto settings.

Revised parts:

The lens-base plate and the auxiliary lens have both been changed and must be matched. The old type lens-base plate has a ridge around the lens opening; the new type does not have the ridge. Also, the diaphragm-adjustment lever is black in the later style and silver-colored in the early style, Fig. 5. The new-style auxiliary lens has the lens information printed on the front ring; the old-style has a separate nameplate ring cemented to the front of the lens.

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